PECTINARIA LAMARCK, 1818 (POLYCHAETA), AND THE SPECIFIC NAMES *P. BELGICA* (PALLAS, 1766) AND *P. KORENI* (MALMGREN, 1866) TO BE VALIDATED UNDER THE PLENARY POWERS. Z.N.(S.) 2202.

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The present application aims at stabilizing in their accustomed senses the generic and specific names *Pectinaria belgica* (Pallas, 1766) and *Pectinaria (Lagis) koreni* (Malmgren, 1866), i.e. as used for example by Malmgren (1866, pp. 356, 360), Fauvel (1927, pp. 220, 221) and Hartmann-Schröder (1971, pp. 444, 446).

2. Lucas & Holthuis (1975) called attention to legal errors in the use of all the names used above, rejecting them in favour of two name combinations in which all components have remained unused since their publication more than 150 years ago. Moreover, both cover one and the same species, leaving the other species without a name. As the two names cited by us above have been in completely stable use for over a century and are well known not only to polychaete specialists but also to marine biologists in general, we feel that such a change will cause serious confusion. In our opinion this is clearly an example which should be treated in accordance with the fourth paragraph in the preamble of the International Code of Zoological Nomenclature, which reads: "When stability of nomenclature is threatened in an individual case, the strict application of the Code may under specified conditions be suspended by the International Commission on Zoological Nomenclature".

3. Our thanks are due to Dr. Charlotte Holmquist, Swedish Museum of Natural History, Stockholm, for placing Malmgren's material of the two species at our disposal and to Dr. Mary E. Petersen, Zoologisk Museum, Copenhagen, for help with many important details of this paper.

4. Pallas (1766, p. 117) established the species *Nereis cylindraria*, and divided it into two varieties, viz, the South African *N. c. capensis* (p.118) and *N.c. belgica* (p. 122), the latter based on abundant, fresh material washed up on the sandy Dutch coast. According to our present rules, one of the two varieties should have been called *cylindraria*, and Lucas & Holthuis (1975, p. 89) chose *belgica* as the nominate subspecies.

5. Pennant (1777, p. 148) described *Sabella tubiformis* and included a reference to *Nereis cylindraria belgica* Pallas.

6. Sowerby (1805, p. 107) described *Nereis pectinata* "found on the Sandwich and other shores". Sandwich Bay (north of Dover)

is an open bay with extensive sand flats.

7. Lamarck (1812, p. 96) used the vernacular "Pectinaire" as a generic name, but it is invalid both because it is not in Latin and because it is a nomen nudum. Nevertheless, "*Pectinaria* Lamarck, 1812" was considered the oldest available name until Hartman (1959).

8. Leach (1816, p. 452) established the genus *Cistena*, type by monotypy *Cistena Pallassii* Leach, 1816, and placed *Nereis cylindraria belgica* as a synonym, as indicated by the reference to Pallas, 1766, pl. 9, fig. 3, and stated "inhabits the sandy shores of Britain".

9. Lamarck (1818, p. 348) was the first to give the name *Pectinaria* in the correct Latin spelling, and referred to that genus two species, *belgica* and *capensis*, both of which are thus equally eligible as type of the genus.

10. Savigny (1820, p. 88) described the new genus *Amphictene*, under which he distinguished two tribes "Amphictenae Cistenae" (p. 89) and "Amphictenae simplices" (p. 90); it is evident that these two taxa are groups of species (i.e. subgenera) and not family groups.

11. Quatrefages (1865, p. 327) created the family-group name PECTINAREA based on the generic name *Pectinaria* (corrected to PECTINARIIDAE only as late as Hartman, 1941).

12. In the same year, Johnston (1865, p. 243) created the family-group name AMPHICTENEA for a group of terebellids. (The correct form AMPHICTENIDAE was introduced two years later by Malmgren, 1867, p. 212). This name was used by almost all authors until Hartman (1941).

13. Malmgren (1866) recorded "*Pectinaria belgica* (Pallas)" (p.. 356) and described *Lagis koreni* n.g., n.sp. (p. 360). His descriptions were immediately accepted, and the two said combinations of names have been in completely stable use ever since (the latter often given as "*Pectinaria (Lagis) koreni*"). Evidently, Malmgren's description of *Lagis koreni* refers to the sand-bottom species described by all the above-mentioned authors and the description of *Pectinaria belgica* covers the mud-bottom species not described until that time; this created the confusion now to be remedied. (We are aware that both species occur on almost all types of soft bottoms, but for convenience we are using the preferred habitats to indicate the two species.)

14. Hartman (1941, p. 325) reintroduced the family name PECTINARIIDAE and has been followed by almost all authors since then.

15. Hartman (1959, p. 479) rejected the authorship of Lamarck, 1812 and referred *Pectinaria* to "Savigny, 1818" (instead of Lamarck, 1818, because she considered Savigny to be the author of that part of Lamarck's work). The synonym *Cistena* Leach, 1816, which thus became the senior one, was mentioned but not used.

16. Lucas & Holthuis (1975, p. 85) showed that the generic name *Pectinaria* Lamarck, 1818 is a junior synonym of *Cistena* Leach, 1816, but the latter name has not been used as a valid name since its introduction more than 160 years ago. They selected the specimen figured by Pallas (1766, pl. 9, fig. 4) as the lectotype for *Nereis cylindraria belgica* Pallas, 1766, for *Sabella tubiformis* Pennant, 1777, and for *Cistena Pallassii* Leach, 1816. Further (p. 89) they chose *Nereis cylindraria* var. *belgica* Pallas, 1766, as the nominate subspecies, thereby invalidating *belgica* in favour of *cylindraria*, a name known only to specialists - and only from the lists of synonyms. Finally they showed that *Nereis cylindraria belgica* must have been the sand-bottom species. As a result of this, Lucas & Holthuis proposed to give the sand-bottom species the name *Cistena cylindraria* (Pallas, 1766) and to call the mud-bottom species *Cistena pectinata* (Sowerby, 1805).

17. We strongly object to most of these conclusions. First, we see no advantage whatsoever in substituting such long established and widely known names by some that have remained completely unused for more than 160 years. Such changes cause a lot of confusion. Secondly, the reasoning leading to the said proposals is open to strong criticism.

18. The historical introduction just given shows that all nominal species described before 1866 in all probability refer to the sand-bottom species. *Nereis pectinata* Sowerby, 1805, is no exception, even though Lucas & Holthuis (p. 88) write "Sowerby stated that this species possesses 14 pairs of parapodia bearing golden setae. As the first three seta-bearing parapodia in *C. belgica* auctt. are small, they may [sic!]have been overlooked by Sowerby so that his material actually had 17 pairs of such parapodia, agreeing with *C. belgica* auctt. In *C. belgica* (Pallas) the number is 15". We leave it to the Commission to judge whether this is an argument justifying the conclusion "Therefore the species known as *Pectinaria* (or *Cistena)* [sic!] *belgica* auctt., correctly should be named *Cistena pectinata* (Sowerby)". We note in passing that the alleged earlier use of the combination *Cistena pectinata* does not exist - as seen from Lucas &Holthuis (op. cit., 89) where the authors cite the name as "n. comb."

19. Sowerby got his material of *pectinata* from several shores in Britain, and the minimum number of his syntypes (it was not customary to select a holotype) must have been three, though the text implies a much larger number (p. 108: "the cases are oftener found without the animal than with it"). If just one of the specimens seen by Sowerby happened to be of the sand-bottom species, which is the more likely species to find washed ashore, the name *pectinata* denotes a mixture of species and its meaning must be clarified before it can be used as a valid name. In order to avoid further controversy on this point, we hereby state that it is close to impossible that the sand-bottom species was not represented in

Sowerby's original material (not now accessible) and we therefore restrict the name to cover the sand-bottom species.

20. Under the Rules, therefore, the situation is that *Cistena cylindraria* (Pallas, 1766) is the name for the sand-bottom species hitherto called *Pectinaria (Lagis) koreni* (Malmgren, 1866) and no name exists for the mud-bottom species hitherto called *Pectinaria belgica* (Pallas, 1766).

21. The generic name *Pectinaria* was based on the sand-bottom species (plus the South African species capensis); trouble arose when Malmgren (1866) misidentified *belgica.*

22. The names *Pectinaria belgica* (Pallas, 1766) and *P. koreni* (Malmgren, 1866) have been in stable use among specialists as well as in marine biological literature and in zoology textbooks for more than a century. The whole case should be a most clear-cut one for the use of the Plenary Powers for the preservation of very stable and well-known names.

23. We therefore ask the Commission to stabilize the current use of the two names by validating the (unfortunate) transfer by Malmgren (1866) of the species name *belgica* Pallas, 1766, to the mud-bottom species (for neotype, see Appendix), setting aside all earlier material and evidence, and by accepting *koreni* Malmgren, 1866, as the valid name for the sand-bottom species (lectotype, see Appendix). We then further ask the Commission to accept the species *belgica* in the validated sense as the type–species of *Pectinaria* Lamarck, 1818.

24. We want to make clear that this will mean that all known references to *Pectinaria belgica* and its several synonyms given before Malmgren (1866) refer to the sand-bottom species, which - as hitherto - should be called *P. koreni.*

25. The family-group names do not offer serious problems. As mentioned above, the alleged family-group name Amphictenea Savigny, 1820, is in fact a name for a group of species of no concern at the higher levels. PECTINAREA Quatrefages, 1865, and AMPHICTENEA Johnston, 1865, are equally old. The latter name, corrected to AMPHICTENIDAE by Malmgren (1867) was in general use until Hartman (1941) changed over to PECTINARIIDAE. She has been followed by almost all subsequent authors. *Pectinaria* is by far the better known generic name, and we therefore find it reasonable to give preference to the name PECTINARIIDAE.

26. The Commission is therefore asked:

(1) Under the Plenary Powers to suppress for the purposes of the Law of Priority, but not for those of the Law of Homonymy
  (A) the specific names:
    (a) *cylindraria* Pallas, 1766, as published in the combination *Nereis cylindraria;*
    (b) *tubiformis* Pennant, 1777, as published in the combination *Sabella tubiformis;*

- (c) *pectinata* Sowerby, 1805, as published in the combination *Nereis pectinata;*
- (d) *pallassii* Leach, 1816, as published in the combination *Cistena Pallassii.*

(B) the generic name *Cistena* Leach, 1816, type by monotypy *Cistena Pallassii.*

(2) To place on the respective Official Lists:

(A) the specific names.

- (a) *belgica* Pallas, 1766, as published in the combination *Nereis cylindraria belgica,* as defined by the neotype designated herein;
- (b) *koreni* Malmgren, 1866, as published in the combination *Lagis koreni.*

(B) the generic name *Pectinaria* Lamarck, 1818, type species by subsequent designation by Malmgren (1866) *Nereis cylindraria belgica* as defined under (2) (A)(a) above.

(C) the family-group name PECTINARIIDAE Quatrefages, 1865 (correction pro PECTINAREA by Hartmen, 1941) (type-genus *Pectinaria* Lamarck, 1818).

(3) To place on the respective Indexes of Rejected and Invalid Names:

(A) the specific names:

- (a) *cylindraria* Pallas, 1766, as published in the combination *Nereis cylindraria* and suppressed uner (1) (A) (a) above;
- (b) *tubiformis* Pennant, 1777, as published in the combination *Sabella tubiformis* and suppressed under (1) (A) (b) above:
- (c) *pectinata* Sowerby, 1805, as published in the combination *Nereis pectinata* and suppressed under (1) (A) (c) above;
- (d) *pallassii* Leach, 1816, as published in the combination *Cistena Pallassii* and suppressed under (1) (A) (d) above.

(B) the generic name *Cistena* Leach, 1816, as suppressed under the plenary powers in (1) (B) above.

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APPENDIX 1: TYPE-MATERIAL

1. Neotype of *Pectinaria belgica* (Pallas, 1766).
Lucas & Holthuis (1975, pp 87-88) have been forced to use indirect evidence to identify the species on which Pallas (1766) based his description of *Nereis cylindraria belgica,* and we take this as a safe indication that no type material is traceable in the Dutch museums. The type material has most probably been lost altogether, but Lucas & Holthuis' argumentation shows that Pallas in all probability was dealing with specimens of the species now called *Pectinaria koreni* (Malmgren, 1866).
To stabilize the name *Pectinaria belgica* (Pallas, 1766) in its accustomed sense we therefore select a neotype among the specimens on which Malmgren (1866, p.357) based his description of the species. This material is kept in the Swedish Museum of Natural History, Stockholm. It is not possible to identify the specimen figured by Malmgren, but we hereby designate as the neotype the specimen labelled: "*Pectinaria belgica* Pall., Bohuslän, S. Lovén". The specimen is numbered: S.M.N.H., Section of Invertebrate Zoology, type no. 3138.

2. Lectotype of *Lagis koreni* Malmgren, 1866.
The specimens on which Malmgren (1866, p. 361) based his description of *Lagis koreni* are likewise kept in the Swedish Museum of Natural History, Stockholm. Unfortunately, Malmgren neither selected a holotype nor figured the species. Therefore we hereby select as lectotype the specimen labelled: "*Lagis koreni* Mgrn., Finmarken, Kalfjord, 50 fv. [fathoms] Göes & A.J. Mgrn." The specimen is numbered: S.M.N.H., Section of Invertebrate Zoology, type no. 3137.

APPENDIX 2.

LIST OF ZOOLOGISTS ATTENDING THE 11th EUROPEAN SYMPOSIUM ON MARINE BIOLOGY, GALWAY, IRELAND, 1976, WHO SUPPORT THE PRESENT APPLICATION.

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